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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,045	07/08/2003	Karl D. Sears		9783

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EXAMINER

HENRY, MICHAEL C

ART UNIT PAPER NUMBER

1623

DATE MAILED: 02/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/616,045

Applicant(s)

SEARS ET AL.

Examiner

Michael C. Henry

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

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DETAILED ACTION

Claims 1-17 are pending in application

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 16 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Sears (US 4,399,275).

Claim 16 is a product-by-process claim wherein the applicants' claim "Cellulose acetate produced according to a method comprising:

mercerizing cellulosic material derived from hardwood in a caustic mercerizing solution to produce mercerized hardwood cellulose; reacting the mercerized hardwood cellulose with an alkylene oxide hydroxyalkylating agent to a degree of substitution of the cellulose ranging from 0.04 to 0.15 to form a reactive mercerized hardwood cellulose, said degree of substitution being insufficient to render said mercerized hardwood cellulose appreciably soluble in water; recovering said reactive substantially water insoluble mercerized hardwood cellulose and acetylating it at a temperature of at least about 30°C to form cellulose acetate." Sears discloses applicant's cellulose acetate with a degree of substitution of the cellulose ranging from 0.04 to 0.15 (see abstract, claim 1 and example 1). A quotation from the MPEP (Manual of Patent Examining Procedure, 8 ed., August 2001) pertaining to Product-by-Process Claims is given below in order for further corroborate the reason for the aforementioned rejection. The quotation

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states that "PRODUCT-BY-PROCESS CLAIMS ARE NOT LIMITED TO THE MANIPULATIONS OF THE RECITED STEPS, ONLY THE STRUCTURE IMPLIED BY THE STEPS "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)." Claim 17 is also encompassed by this rejection, since applicant's cellulose acetate contains a has triacetate haze value of not greater than about 6.5 and sears cellulose acetate has a triacetate haze value of about 6.7. It should be noted that a triacetate haze value of **about** 6.5 reads on a triacetate haze value of 6.7.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sears (US 4,399,275).

In claim 1, applicant claims "a process for the preparation of cellulose acetate comprising:

mercerizing cellulosic material derived from hardwood in a caustic mercerizing solution to produce mercerized hardwood cellulose; reacting the mercerized hardwood cellulose with an

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alkylene oxide hydroxyalkylating agent to a degree of substitution of the cellulose ranging from 0.04 to 0.15 to form a reactive mercerized hardwood cellulose, said degree of substitution being insufficient to render said mercerized hardwood cellulose appreciably soluble in water; recovering said reactive substantially water insoluble mercerized hardwood cellulose and acetylating it at a temperature of at least about 30°C to form cellulose acetate."

Sears discloses "a process for the preparation of cellulose acetate comprising:

mercerizing cellulosic material in a caustic mercerizing solution to produce mercerized cellulose; reacting the mercerized cellulose with an alkylene oxide hydroxyalkylating agent to a degree of substitution of the cellulose ranging from 0.05 to 0.3 to form a reactive mercerized cellulose, said degree of substitution being insufficient to render said mercerized cellulose appreciably soluble in water; recovering said highly reactive substantially water insoluble cellulose and acetylating it to form cellulose acetate"(see claim 1 and example 1).

The difference between the process claimed in the instant invention and that of Sears is the type of cellulosic material used in the process and the temperature. The applicant uses hardwood cellulosic pulp and claims a temperature of at least about 30°C for the acetylation reaction, whereas Sears teaches that a variety of cellulosic materials (principally pulps) can be used (col. 3, lines 42-44) and Sears is silent about the temperature range for the acetylation, although he exemplifies acetylation temperatures 23, 19, 22 (col. 6, see table). However, depending on the type of cellulosic material used, the process may require slight preferential adjustments to secondary reaction parameters like the temperature and the % by weight of the reagents. Consequently, this would produce cellulose acetate of different purity or texture. Also, Sears uses conventional acetylation processes for the preparation of cellulose acetate which

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involves both high and low acid catalyst reactions (col. 3, lines 52-56). This implies that conditions like the temperature may be varied so as to effectuate the type of acetylation process employed.

It would have been obvious to one having ordinary skill in the art, at the time the claimed invention was made to have used the process of Sears, and to make slight preferential adjustments in the type of cellulosic material used, and consequently, in the secondary reaction parameters like the temperature and the % by weight of the reagents, based on need, cost, availability and/or convenience of use.

One having ordinary skill in the art would have been motivated, to have used the process of Sears, and to make slight preferential adjustments in the type of cellulosic material used, and consequently, in the secondary reaction parameters like the temperature and the % by weight of the reagents, based on need, cost, availability and/or convenience of use.

It should be note that claims 2-15 are also encompassed by this rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Henry whose telephone number is 703 308-7307. The examiner can normally be reached on 8:30 am to 5:00 pm; Mon-Fri. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O. Wilson can be reached on 703 571-272-0661. The fax phone number for the organization where this application or proceeding is assigned is 703 308-4556.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-1235.


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MCH

February 20, 2004.


SAMUEL BARTS
PRIMARY EXAMINER
GROUP 1600